

REMARKS***Summary of the Amendment***

Upon entry of the instant amendment, claims 12 and 28 will have been amended, and claims 1 – 43 will remain pending.

Summary of the Official Action

In the instant Office Action, the Examiner has acknowledged claims 12 and 28 contain allowable subject matter and would be allowed if presented in independent forms that include all of the features of their base claims and any intervening claims. Further, the Examiner has rejected claims 1 – 11, 13 – 27, and 29 – 43 over the art of record. By the present amendment and remarks, Applicants submit that the rejections have been overcome, and respectfully request reconsideration of the outstanding Office Action and allowance of the present application.

Acknowledgement of Allowable Subject Matter

Applicants gratefully acknowledge the Examiner's indication that claims 12 and 28 contain allowable subject matter and would be allowed if presented in independent forms that include all of the features of their base claims and any intervening claims. By the present amendment, Applicants are presenting claims 12 and 28 in independent and allowable form, and request the Examiner indicate the allowability of these claims in the next official communication.

Amendment is Proper for Entry

Applicants note, as the instant amendment merely presents claims containing allowable subject matter into independent and allowable form, no question of new matter is raised and no new issues for consideration by the Examiner are presented by this amendment. Therefore, entry of this amendment is proper and respectfully requested.

Traversal of Rejection Under 35 U.S.C. § 102(b)

Applicants traverse the rejection of claims 17 and 43 under 35 U.S.C. § 102(b) as being anticipated by IWASE (U.S. Patent No. 6,255,008). The Examiner asserts Figure 1 of IWASE anticipates the noted claims, in that the figure shows a power unit comprising a fuel cell, a control unit to control and regulate the fuel cell, a communication interface to provide two-way communication between the control unit and the electronic device. Applicants traverse the Examiner's assertions.

Applicants' independent claim 17, which is directed to a *power unit for an electronic device*, recites, *inter alia*, a communication interface structured to provide *two-way communication between said control unit and the electronic device*, and Applicants' independent claim 43, which is directed to a process for control and regulation of *an electronic device powered by a fuel cell*, recites, *inter alia*, establishing *two-way communication between the control unit and the electronic device*. Applicants submit IWASE fails to disclose at least the above-noted features of the invention.

In the Examiner's *Response to Arguments* section (see page 13 of the Final Office Action), the Examiner responds to Applicants previous request to positively identify the electronic device in IWASE powered by the fuel cell 36. In this regard, the Examiner asserts the fuel cell is a powering unit for an electric vehicle, and some of the components of the powered by the power supply are electronic devices, such as inverter 44 and dc/dc converter 38. The Examiner further asserts IWASE discloses an input that receives/sends information to electronic devices 38 and 44.

With regard to the Examiner's above noted comments, Applicants submit neither inverter 44 nor dc/dc converter 38 are electronic devices with the context of independent claims 17 and 43. While Applicants acknowledge the fuel cell is utilized as a power supply, the fuel cell is

utilized to power motor 46. Contrary to the Examiner's assertions, inverter 44 and dc/dc converter 38 are components for providing the requisite power to motor 46. Thus, within the context of IWASE, inverter 44 and dc/dc converter 38 are part of the *power unit* for motor 46, and not electronic devices, as recited in Applicants' independent claims 17 and 43.

Further, with regard to the Examiner's assertions regarding two-way communication, Applicants note the Examiner's assertions are not supported by any express or implied disclosure by IWASE. While the Examiner asserts IWASE discloses an input that receives/sends information to electronic devices 38 and 44, careful review of Figure 1 of IWASE reveals that the only inputs to control unit 20 are from a sensor 22 monitoring accelerator pedal position and from a sensor 42 monitoring state of charge of battery 40. While IWASE shows signaling from control unit 20 to inverter 44 and dc/dc converter 38, this signaling is one-way rather than a two-way communication, as recited in at least independent claims 17 and 43. Moreover, Applicants note, careful review of Figure 1 of IWASE reveals there is no arguable disclosure of two-way communication between control 20 and *any other device* identified by IWASE.

Thus, even assuming, *arguendo*, that inverter 44 and dc/dc converter 38 could be reasonably considered electronic devices for the recited power unit of at least independent claim 17 or electronic devices powered by the fuel cell, as recited in at least independent claim 43 (which Applicants submit they cannot), Applicants submit there is not arguable disclosure of the recited two-way communication between these elements and the control unit, as recited in at least independent claims 17 and 43.

Thus, as Applicants have previously noted, the Examiner has not positively identified an electronic device in IWASE powered by the fuel cell and that is in two-way communication with the control device, as recited in Applicants' claims. Therefore, Applicants submit the Examiner

has not shown each and every recited feature of independent claims 17 and 43 in the applied art.

Thus, Applicants submit the Examiner has failed to provide an adequate evidentiary basis to support a rejection of anticipation under 35 U.S.C. § 102(b) and the instant rejection is improper and should be withdrawn.

Accordingly, Applicants request that the Examiner reconsider and withdraw the rejection of claims 17 and 43 under 35 U.S.C. § 102(b) and indicate these claims are allowable in the next official communication to the undersigned.

Traversal of Rejection Under 35 U.S.C. § 103(a)

1. *Over Iwase in view of Cabasso*

Applicants traverse the rejection of claims 1, 2, 4, 9, 16, 33, 34, 36, 37, and 41 under 35 U.S.C. § 103(a) as being unpatentable over IWASE in view of CABASSO et al. (U.S. Patent No. 6,987,163) [hereinafter “CABASSO”]. The Examiner asserts that IWASE shows a fuel cell having a low output voltage (“low” being a relative term), and a conversion device to convert an output voltage to a higher voltage, but acknowledges IWASE’s failure to disclose an output voltage as low as 0.3V. However, the Examiner further asserts it would have been obvious to use a fuel cell having an output voltage as low as 0.3V in view of the disclosure of CABASSO. Applicants traverse the Examiner’s assertions.

Applicants’ independent claim 1, which is directed to a power unit *for an electronic device*, recites, *inter alia*, a fuel cell having a low output voltage *between 0.3 and 1 V*, and a conversion device coupled to said fuel cell to convert an input voltage as low as 0.3 V to a higher output voltage *to operate the electronic device*. Further, Applicants’ independent claim 33, which is directed to a process for control and regulation *of an electronic device powered by a fuel cell*, recites, *inter alia*, coupling a fuel cell to *an electronic device*, and boosting an output

voltage of the fuel cell *as low as 0.3V to a level required by the electronic device*. Applicants submit that no proper combination of the applied documents renders unpatentable the combination of features recited in at least independent claims 1 and 33.

As discussed above, Applicants note the Examiner has not positively identified an electronic device in IWASE powered by the fuel cell 36, rather it appears the fuel cell of IWASE is utilized to power motor 46. Moreover, Applicants note, and the Examiner acknowledges, IWASE fails to provide any disclosure regarding the output voltage of the fuel cell.

Thus, Applicants submit, despite the subject matter disclosed by IWASE, there is no arguable disclosure, express or implied, as to the output voltage of the fuel cell, and certainly no suggestion of a low output voltage between 0.3 and 1 V, as recited in at least independent claim 1 or of converting/boosting an output voltage of a fuel cell applied as low as 0.3V to a level required by the electronic device. Moreover, Applicants note the art of record fails to provide any arguable support that one ordinarily skilled in the art would have a reasonable expectation of success in powering the motor 46 of IWASE with a fuel cell having an output voltage as low as 0.3 V, or for converting/boosting a voltage from a fuel cell as low as 0.3 V to a level required by a motor 46 of IWASE.

In this regard, Applicants submit, as IWASE is directed to a system utilizing a fuel cell to drive a motor for an electric vehicle, one ordinarily skilled in the art would not reasonably understand the output voltage of IWASE's fuel cell to be as low as 0.3 V, as recited in at least independent claims 1 and 33, or that such a low voltage would have been boosted/converted to a level required by the motor 46 of IWASE.

Recognizing that IWASE fails to disclose converting/boosting a fuel cell voltage as low as 0.3 V, the Examiner has applied CABASSO for allegedly disclosing a fuel cell have an output

voltage between 0.3 and 1 V. Applicants note, notwithstanding the disclosure of CABASSO regarding an output voltage of its fuel cell, neither this document nor any other document of record, provides any arguable disclosure that one ordinarily skilled in the art would expect to achieve successful results through the use of the CABASSO fuel cell to drive motor 46 of IWASE, as asserted by the Examiner.

In other words, as CABASSO, like IWASE, fails to provide any information regarding the requisite voltage output of a fuel cell for powering motor 46 of IWASE, neither document provides any suggestion for the output voltage of the fuel cell for powering motor 46 of IWASE. Further, Applicants neither CABASSO nor any other document of record provides any suggestion as to whether it would have been obvious to utilize the CABASSO fuel cell having an output voltage between 0.3 and 1 V to power motor 46 of IWASE.

Thus, Applicants submit the applied art fails to provide any articulated reasoning or rationale for modifying IWASE in view of CABASSO in the manner asserted by the Examiner, particularly since the applied art provides no reasonable expectation of success should such a combination be made. Therefore, Applicants submit the applied art of record fails to render unpatentable the invention recited in at least independent claims 1 and 33.

Further, while IWASE discloses dc/dc converter 38 to adjust the voltage outputted from the fuel cell, there is no disclosure or suggestion that dc/dc converter 38 can convert or boost a voltage as low as 0.3 V, as recited in at least independent claims 1 and 33. In fact, Applicants note IWASE discloses that fuel cell 36 in the illustrated embodiment includes a stack structure formed by stacking a plurality of unit cell. *IWASE*, col. 3, line 66 – col. 4, line 1. As the stacking of unit cell increases the output voltage, Applicants submit it appears the increased output voltage is produced so a suitable voltage can be applied so dc/dc converter 38 can adequately

adjust the voltage for powering motor 46.

Thus, Applicants submit there is no arguable disclosure in the applied art of record to render obvious the invention, since there is no disclosure of a suitable output voltage of a fuel cell to power motor 46 of IWASE, no disclosure of whether the fuel cell of CABASSO having an output voltage between 0.3 and 1 V can power motor 46 of IWASE, and no disclosure of whether the dc/dc converter can convert/boost a voltage as low as 0.3 V from a fuel cell such as described by CABASSO to a level suitable for powering motor 46 of IWASE.

In contrast to the instant invention, neither applied document arguably discloses a conversion device coupled to the fuel cell to convert a voltage as low as 0.3 V, as recited in independent claim 1 or any manner for boosting the output voltage of a fuel cell as low as 0.3 V to a level required by an electronic device, as recited in independent claim 33. As neither document even arguably suggests the above-noted specifically recited device or process features operating with an output voltage as low as 0.3V, Applicants submit no proper combination of IWASE and CABASSO can even arguably render unpatentable the combination of features recited in the pending claims.

While both IWASE and CABASSO disclose fuel cells, neither document provides any arguable disclosure of a converter device to convert an output voltage of the fuel cell as low as 0.3 V or any process for boosting the output voltage of the fuel cell as low as 3.0 V, as recited in the pending claims. In fact, Applicants note, as acknowledged by the Examiner, IWASE fails to provide any arguable disclosure of an output voltage for the fuel cell, and, as CABASSO only discloses a fuel cell, this document fails to disclose a conversion device. Thus, Applicants submit the applied art fails to provide any reasonable basis for utilizing a fuel cell having an output voltage as low as 0.3 – 1V to power a motor for the electric vehicle of IWASE, and

further fails to support the Examiner's assertions that it would have been obvious to convert a voltage as low as 0.3 V with the IWASE conversion device or that it would have been obvious to utilize such a low voltage fuel cell in IWASE and yet still continue to operate in its intended manner.

Thus, Applicants note the Examiner has not identified any disclosed structure related to dc/dc converter 38 of IWASE to even arguably support his assertions of obviousness, and has merely provided conclusory statements regarding obviousness, which cannot sustain a rejection under 35 U.S.C. § 103(a). Further, the Examiner has not identified any operating parameters of the conversion device of IWASE on which an assertion of obviousness could be based to render the instant invention unpatentable. Thus, Applicants submit it cannot be reasonably determined from the applied art whether IWASE would operate in its intended manner if modified to include the fuel cell of CABASSO, nor is it reasonably apparent whether the dc-dc converter device of IWASE would operate in its intended manner when coupled to the low voltage output of the fuel cell of CABASSO, or whether a sufficient voltage could be obtained when the fuel cell of CABASSO is used with the dc-dc converter device of IWASE.

Thus, Applicants further submit that the art of record fails to render the instant invention unpatentable over any proper combination IWASE and CABASSO, such that the instant rejection is improper and should be withdrawn.

Further, Applicants submit that claims 2, 4, 9, 16, 34, 36, 37, and 41 are allowable at least for the reason that these claims depend from allowable base claims, and because these claims recite additional features that further defines the invention over the art of record. Thus, Applicants submit that no proper combination of IWASE and CABASSO renders obvious the combination of features recited in at least claims 2, 4, 9, 16, 34, 36, 37, and 41.

Accordingly, Applicants request the Examiner reconsider and withdraw the rejection of claims 1, 2, 4, 9, 16, 33, 34, 36, 37, and 41 under 35 U.S.C. § 103(a) and indicate that these claims are allowable.

2. *Over Iwase in view of Cabasso and further in view of Komatsu*

Applicants traverse the rejection of claims 3, 5, 10, and 35 under 35 U.S.C. § 103(a) as being unpatentable over IWASE in view of CABASSO and further in view of KOMATSU et al. (U.S. Patent No. 6,917,179) [hereinafter “KOMATSU”]. The Examiner acknowledges neither IWASE nor CABASSO disclose an up converter coupled to the output of a dc-dc converter, but that it would have been obvious to do so in view of the disclosure of KOMATSU. Applicants traverse the Examiner’s assertions.

Applicants note KOMATSU fails to disclose the subject matter noted above as deficient in any proper combination of IWASE in view of CABASSO. In particular, KOMATSU fails to disclose the converting or boosting a fuel cell voltage as low as 0.3 V, such as described by CABASSO, to drive the motor 46 of the electric vehicle of IWASE. Moreover, like IWASE and CABASSO, Applicants note KOMATSU, too, fails to disclose a dc/dc converter that can convert or boost a fuel cell voltage as low as 0.3 V to a level required by motor 46 of IWASE.

Thus, because the applied art fails to arguably disclose at least the above-noted features of the invention, Applicants submit the applied art fails to provide any articulated reasoning or rationale for combining the applied document in any manner that would render unpatentable the invention. Further, in view of the number of defects identified by Applicants in the Examiner’s reasoning in rejecting the pending claims, Applicants submit the applied art fails to suggest a reasonable expectation of success to one ordinarily skilled in the art in the combined teachings of the applied art.

Thus, Applicants submit no proper combination of IWASE in view of CABASSO and further in view KOMATSU can render the instant invention obvious, since KOMATSU fails to provide any articulated reasoning or rationale for combining IWASE in view of CABASSO in the manner asserted by the Examiner. Moreover, as the applied art fails to arguably suggest an expectation of success if combined in the manner asserted by the Examiner, Applicants submit the invention is not rendered obvious over the art of record.

Further, Applicants submit that claims 3, 5, 10, and 35 are allowable at least for the reason that these claims depend from allowable base claims, and because these claims recite additional features that further defines the invention over the art of record. Thus, Applicants submit that no proper combination of IWASE, CABASSO, and KOMATSU renders obvious the combination of features recited in at least claims 3, 5, 10, and 35.

Accordingly, Applicants request the Examiner reconsider and withdraw the rejection of claims 3, 5, 10, and 35 under 35 U.S.C. § 103(a) and indicate that these claims are allowable.

3. *Over Iwase in view of Cabasso and further in view of Isogai*

Applicants traverse the rejection of claims 6, 7, 24 – 26, 38, and 39 under 35 U.S.C. § 103(a) as being unpatentable over IWASE in view of CABASSO and further in view of ISOGAI (U.S. Patent Application Publication No. 2004/0219409). The Examiner acknowledges neither IWASE nor CABASSO disclose a heating device, but that it would have been obvious to do so in view of the disclosure of ISOGAI. Applicants traverse the Examiner's assertions.

Applicants note ISOGAI fails to disclose the subject matter noted above as deficient in any proper combination of IWASE in view of CABASSO. In particular, ISOGAI fails to disclose the converting or boosting a fuel cell voltage as low as 0.3 V, such as described by CABASSO, to drive the motor 46 of the electric vehicle of IWASE. Moreover, like IWASE and

CABASSO, Applicants note ISOGAI, too, fails to disclose a dc/dc converter that can convert or boost a fuel cell voltage as low as 0.3 V to a level required by motor 46 of IWASE.

Thus, because the applied art fails to arguably disclose at least the above-noted features of the invention, Applicants submit the applied art fails to provide any articulated reasoning or rationale for combining the applied document in any manner that would render unpatentable the invention. Further, in view of the number of defects identified by Applicants in the Examiner's reasoning in rejecting the pending claims, Applicants submit the applied art fails to suggest a reasonable expectation of success to one ordinarily skilled in the art in the combined teachings of the applied art.

Thus, Applicants submit no proper combination of IWASE in view of CABASSO and further in view ISOGAI can render the instant invention obvious, since ISOGAI fails to provide any articulated reasoning or rationale for combining IWASE in view of CABASSO in the manner asserted by the Examiner. Moreover, as the applied art fails to arguably suggest an expectation of success if combined in the manner asserted by the Examiner, Applicants submit the invention is not rendered obvious over the art of record.

Further, Applicants submit that claims 6, 7, 24 – 26, 38, and 39 are allowable at least for the reason that these claims depend from allowable base claims, and because these claims recite additional features that further defines the invention over the art of record. Thus, Applicants submit that no proper combination of IWASE, CABASSO, and ISOGAI renders obvious the combination of features recited in at least claims 6, 7, 24 – 26, 38, and 39.

Accordingly, Applicants request the Examiner reconsider and withdraw the rejection of claims 6, 7, 24 – 26, 38, and 39 under 35 U.S.C. § 103(a) and indicate that these claims are allowable.

4. *Over Iwase in view of Cabasso and Komatsu and further in view of Isogai*

Applicants traverse the rejection of claim 11 under 35 U.S.C. § 103(a) as being unpatentable over IWASE in view of CABASSO and further in view of KOMATSU and ISOGAI. The Examiner acknowledges none of IWASE, CABASSO, or KOMATSU disclose a heating device, but that it would have been obvious to do so in view of the disclosure of ISOGAI. Applicants traverse the Examiner's assertions.

Applicants note ISOGAI fails to disclose the subject matter noted above as deficient in any proper combination of IWASE in view of CABASSO and KOMATSU. In particular, ISOGAI fails to disclose the converting or boosting a fuel cell voltage as low as 0.3 V, such as described by CABASSO, to drive the motor 46 of the electric vehicle of IWASE. Moreover, like IWASE, CABASSO and KOMATSU, Applicants note ISOGAI, too, fails to disclose a dc/dc converter that can convert or boost a fuel cell voltage as low as 0.3 V to a level required by motor 46 of IWASE.

Thus, because the applied art fails to arguably disclose at least the above-noted features of the invention, Applicants submit the applied art fails to provide any articulated reasoning or rationale for combining the applied document in any manner that would render unpatentable the invention. Further, in view of the number of defects identified by Applicants in the Examiner's reasoning in rejecting the pending claims, Applicants submit the applied art fails to suggest a reasonable expectation of success to one ordinarily skilled in the art in the combined teachings of the applied art.

Thus, Applicants submit no proper combination of IWASE in view of CABASSO and KOMATSU and further in view ISOGAI can render the instant invention obvious, since ISOGAI fails to provide any articulated reasoning or rationale for combining IWASE in view of

CABASSO and KOMATSU in the manner asserted by the Examiner. Moreover, as the applied art fails to arguably suggest an expectation of success if combined in the manner asserted by the Examiner, Applicants submit the invention is not rendered obvious over the art of record.

Further, Applicants submit that claim 11 is allowable at least for the reason that it depends from allowable base claims, and because it recites additional features that further defines the invention over the art of record. Thus, Applicants submit that no proper combination of IWASE, CABASSO, KOMATSU, and ISOGAI renders obvious the combination of features recited in at least claim 11.

Accordingly, Applicants request the Examiner reconsider and withdraw the rejection of claim 11 under 35 U.S.C. § 103(a) and indicate that these claims are allowable.

5. Over Iwase in view of Cabasso and further in view of Yoon

Applicants traverse the rejection of claims 13 – 15 and 42 under 35 U.S.C. § 103(a) as being unpatentable over IWASE in view of CABASSO and further in view of YOON et al. (U.S. Patent No. 6,160,382) [hereinafter “YOON”]. The Examiner acknowledges neither IWASE nor CABASSO disclose an A/D or D/A converter, but that it would have been obvious to do so in view of the disclosure of YOON. Applicants traverse the Examiner’s assertions.

Applicants note YOON fails to disclose the subject matter noted above as deficient in any proper combination of IWASE in view of CABASSO. In particular, YOON fails to disclose the converting or boosting a fuel cell voltage as low as 0.3 V, such as described by CABASSO, to drive the motor 46 of the electric vehicle of IWASE. Moreover, like IWASE and CABASSO, Applicants note YOON, too, fails to disclose a dc/dc converter that can convert or boost a fuel cell voltage as low as 0.3 V to a level required by motor 46 of IWASE.

Thus, because the applied art fails to arguably disclose at least the above-noted features of

the invention, Applicants submit the applied art fails to provide any articulated reasoning or rationale for combining the applied document in any manner that would render unpatentable the invention. Further, in view of the number of defects identified by Applicants in the Examiner's reasoning in rejecting the pending claims, Applicants submit the applied art fails to suggest a reasonable expectation of success to one ordinarily skilled in the art in the combined teachings of the applied art.

Thus, Applicants submit no proper combination of IWASE in view of CABASSO and further in view YOON can render the instant invention obvious, since YOON fails to provide any articulated reasoning or rationale for combining IWASE in view of CABASSO in the manner asserted by the Examiner. Moreover, as the applied art fails to arguably suggest an expectation of success if combined in the manner asserted by the Examiner, Applicants submit the invention is not rendered obvious over the art of record.

Further, Applicants submit that claims 13 – 15 and 42 are allowable at least for the reason that these claims depend from allowable base claims, and because these claims it recite additional features that further defines the invention over the art of record. Thus, Applicants submit that no proper combination of IWASE, CABASSO, and YOON renders obvious the combination of features recited in at least claim 11.

Accordingly, Applicants request the Examiner reconsider and withdraw the rejection of claims 13 – 15 and 42 under 35 U.S.C. § 103(a) and indicate that these claims are allowable.

6. Over Iwase in view of Cabasso

Applicants traverse the rejection of claims 18, 19, and 21 – 23 under 35 U.S.C. § 103(a) as being unpatentable over IWASE in view of CABASSO. The Examiner asserts that IWASE shows a fuel cell having a low output voltage ("low" being a relative term), and a conversion

device to convert an output voltage to a higher voltage, but acknowledges IWASE's failure to discloses an output voltage as low as 0.3V. However, the Examiner further asserts it would have been obvious to use a fuel cell having an output voltage as low as 0.3V in view of the disclosure of CABASSO. Applicants traverse the Examiner's assertions.

Applicants' independent claim 17, which is directed to a power unit *for an electronic device*, recites, *inter alia*, a communication interface structured to provide *two-way communication between said control unit and the electronic device*. Applicants submit that no proper combination of the applied documents renders unpatentable the combination of features recited in at least independent claim 17.

As discussed above, Applicants note the Examiner has not positively identified an electronic device in IWASE powered by the fuel cell 36, nor has the Examiner identified any electronic device in two-way communication with control 20 of IWASE. Moreover, the Examiner acknowledges IWASE fails to provide any disclosure regarding the output voltage of the fuel cell.

However, Applicants submit, as IWASE is directed to a system utilizing a fuel cell to drive a motor for an electric vehicle, one ordinarily skilled in the art would not reasonably understand the output voltage of IWASE's fuel cell is a low voltage between 0.3 – 1V, as recited in at least independent claim 17, so as to drive a motor to propel an electric vehicle, nor would one ordinarily skilled in the art reasonably understand such a fuel cell to power the motor of an electric vehicle in the manner required by IWASE.

Further, while acknowledging CABASSO provides an arguable teaching or a fuel cell having an output voltage between 0.3 V and 1.0 V, Applicants note this document fails to provide any disclosure that this fuel cell can power an electric vehicle such as IWASE. Thus,

Applicants submit the applied art fails to provide any articulable reasoning or rationale for combining IWASE and CABASSO in the manner asserted by the Examiner, particularly since the applied art provides no reasonable expectation of success should such a combination be made.

Further, in contrast to the instant invention, neither applied document teaches or suggests an conversion device coupled to the fuel cell to convert a voltage as low as 0.3 V, as recited in independent claim 17. As neither document even arguably suggests the above-noted specifically recited device operating with an output voltage as low as 0.3V or of two-way communication between a control device and an electronic device, Applicants submit no proper combination of FISHER and CABASSO can even arguably render unpatentable the combination of features recited in the pending claims.

While both IWASE and CABASSO disclose fuel cells, neither document provides any arguable disclosure of a converter device to *convert an output voltage* of the fuel cell *as low as 0.3 V* or of *two-way communication* between a *control device and an electronic device*, as recited in the pending claims. In fact, Applicants note, as acknowledged by the Examiner, IWASE fails to provide any teaching or suggestion of an output voltage for the fuel cell. Thus, Applicants submit the applied art fails to provide any reasonable basis for utilizing a fuel cell having an output voltage as low as 0.3 – 1V to power a motor for the electric vehicle of IWASE.

Thus, Applicants note the Examiner has not identified any disclosure related to the dc to dc converter of IWASE to even arguably support his assertions of obviousness. Further, the Examiner has not shown any operating parameters of the conversion device of IWASE. Thus, Applicants submit it cannot be reasonably determined from the applied art whether IWASE would operate in its intended manner if modified to include the fuel cell of CABASSO, nor is it

reasonably apparent whether the dc-dc converter device of IWASE would operate in its intended manner when coupled to the low voltage output of the fuel cell of CABASSO, or whether a sufficient voltage could be obtained when the fuel cell of CABASSO is used with the dc-dc converter device of IWASE.

Thus, Applicants further submit that the art of record fails to render the instant invention unpatentable over any proper combination IWASE and CABASSO, such that the instant rejection is improper and should be withdrawn.

Further, Applicants submit that claims 18, 19, and 21 – 23 are allowable at least for the reason that these claims depend from allowable base claims, and because these claims recite additional features that further defines the invention over the art of record. Thus, Applicants submit that no proper combination of IWASE and CABASSO renders obvious the combination of features recited in at least claims 18, 19, and 21 – 23.

Accordingly, Applicants request the Examiner reconsider and withdraw the rejection of claims 18, 19, and 21 – 23 under 35 U.S.C. § 103(a) and indicate that these claims are allowable.

7. *Over Iwase in view of Cabasso and further in view of Komatsu*

Applicants traverse the rejection of claim 20 under 35 U.S.C. § 103(a) as being unpatentable over IWASE in view of CABASSO and further in view of KOMATSU. The Examiner acknowledges neither IWASE nor CABASSO disclose an up converter, but that it would have been obvious to do so in view of the disclosure of KOMATSU. Applicants traverse the Examiner's assertions.

Applicants note KOMATSU fails to disclose the subject matter noted above as deficient in any proper combination of IWASE in view of CABASSO. In particular, KOMATSU fails to disclose the use of a fuel cell having a low voltage between 0.3 and 1.0 V to drive the motor of

an electric vehicle, such as disclosed by IWASE, and fails to disclose a dc-dc converter structured for use with IWASE that would arguably allow IWASE to operate in its intended manner when coupled to the low voltage output of the fuel cell of CABASSO.

Thus, Applicants submit no proper combination of IWASE in view of CABASSO and further in view KOMATSU can render the instant invention obvious, since KOMATSU fails to provide any articulable reasoning or rationale for combining IWASE in view of CABASSO in the manner asserted by the Examiner. Moreover, as the applied art fails to arguably suggest an expectation of success if combined in the manner asserted by the Examiner, Applicants submit the invention is not rendered obvious over the art of record.

Further, Applicants submit that claim 20 is allowable at least for the reason that it depends from allowable base claims, and because it recites additional features that further defines the invention over the art of record. Thus, Applicants submit that no proper combination of IWASE, CABASSO, and KOMATSU renders obvious the combination of features recited in at least claim 20.

Accordingly, Applicants request the Examiner reconsider and withdraw the rejection of claim 20 under 35 U.S.C. § 103(a) and indicate that these claims are allowable.

8. *Over Iwase in view of Cabasso and further in view of Woodward*

Applicants traverse the rejection of claim 27 under 35 U.S.C. § 103(a) as being unpatentable over IWASE in view of CABASSO and further in view of WOODWARD et al. (U.S. Patent No. 4,563,630) [hereinafter “WOODWARD”]. The Examiner acknowledges neither IWASE nor CABASSO disclose a dump resistor, but that it would have been obvious to do so in view of the disclosure of WOODWARD. Applicants traverse the Examiner’s assertions.

Applicants note WOODWARD fails to disclose the subject matter noted above as

deficient in any proper combination of IWASE in view of CABASSO. In particular, WOODWARD fails to disclose the use of a fuel cell having a low voltage between 0.3 and 1.0 V to drive the motor of an electric vehicle, such as disclosed by IWASE, and fails to disclose a dc-dc converter structured for use with IWASE that would arguably allow IWASE to operate in its intended manner when coupled to the low voltage output of the fuel cell of CABASSO.

Thus, Applicants submit no proper combination of IWASE in view of CABASSO and further in view WOODWARD can render the instant invention obvious, since WOODWARD fails to provide any articulable reasoning or rationale for combining IWASE in view of CABASSO in the manner asserted by the Examiner. Moreover, as the applied art fails to arguably suggest an expectation of success if combined in the manner asserted by the Examiner, Applicants submit the invention is not rendered obvious over the art of record.

Further, Applicants submit that claim 27 is allowable at least for the reason that it depends from allowable base claims, and because it recites additional features that further defines the invention over the art of record. Thus, Applicants submit that no proper combination of IWASE, CABASSO, and WOODWARD renders obvious the combination of features recited in at least claim 27.

Accordingly, Applicants request the Examiner reconsider and withdraw the rejection of claim 27 under 35 U.S.C. § 103(a) and indicate that these claims are allowable.

9. Over Iwase in view of Yoon

Applicants traverse the rejection of claims 29 – 31 under 35 U.S.C. § 103(a) as being unpatentable over IWASE in view of YOON. The Examiner acknowledges IWASE fails to disclose an A/D converter, but asserts that it would have been obvious to do so in view of the disclosure of YOON. Applicants traverse the Examiner's assertions.

Applicants note YOON fails to disclose the subject matter noted above as deficient in IWASE. In particular, YOON fails to disclose the use of a fuel cell having a low voltage between 0.3 and 1.0 V to drive the motor of an electric vehicle, such as disclosed by IWASE, and fails to disclose a two-way communication between the control device and a powered electronic device.

Thus, Applicants submit no proper combination of IWASE in view of YOON can render the instant invention obvious, since YOON fails to provide any articulable reasoning or rationale for modifying IWASE in the manner asserted by the Examiner. Moreover, as the applied art fails to arguably suggest an expectation of success if combined in the manner asserted by the Examiner, Applicants submit the invention is not rendered obvious over the art of record.

Further, Applicants submit that claim 29 – 31 are allowable at least for the reason that these claims depend from allowable base claims, and because these claims recite additional features that further defines the invention over the art of record. Thus, Applicants submit that no proper combination of IWASE and YOON renders obvious the combination of features recited in at least claims 29 - 31.

Accordingly, Applicants request the Examiner reconsider and withdraw the rejection of claims 29 – 31 under 35 U.S.C. § 103(a) and indicate that these claims are allowable.

10. Over Iwase in view of Cabasso and further in view of Woodward

Applicants traverse the rejection of claims 8 and 40 under 35 U.S.C. § 103(a) as being unpatentable over IWASE in view of CABASSO and further in view of WOODWARD. The Examiner acknowledges neither IWASE nor CABASSO disclose a dump resistor, but that it would have been obvious to do so in view of the disclosure of WOODWARD. Applicants traverse the Examiner's assertions.

Applicants note WOODWARD fails to disclose the subject matter noted above as deficient in any proper combination of IWASE in view of CABASSO. In particular, WOODWARD fails to disclose the use of a fuel cell having a low voltage between 0.3 and 1.0 V to drive the motor of an electric vehicle, such as disclosed by IWASE, and fails to disclose a dc-dc converter structured for use with IWASE that would arguably allow IWASE to operate in its intended manner when coupled to the low voltage output of the fuel cell of CABASSO.

Thus, Applicants submit no proper combination of IWASE in view of CABASSO and further in view WOODWARD can render the instant invention obvious, since WOODWARD fails to provide any articulable reasoning or rationale for combining IWASE in view of CABASSO in the manner asserted by the Examiner. Moreover, as the applied art fails to arguably suggest an expectation of success if combined in the manner asserted by the Examiner, Applicants submit the invention is not rendered obvious over the art of record.

Further, Applicants submit that claims 8 and 40 are allowable at least for the reason that these claims depend from allowable base claims, and because these claims recite additional features that further defines the invention over the art of record. Thus, Applicants submit that no proper combination of IWASE, CABASSO, and WOODWARD renders obvious the combination of features recited in at least claim 8 and 40.

Accordingly, Applicants request the Examiner reconsider and withdraw the rejection of claims 8 and 40 35 U.S.C. § 103(a) and indicate that these claims are allowable.

Application is Allowable

Thus, Applicants respectfully submit that each and every pending claim of the present invention meets the requirements for patentability under 35 U.S.C. §§ 102 and 103, and respectfully request the Examiner to indicate allowance of each and every pending claim of the present invention.

Authorization to Charge Deposit Account

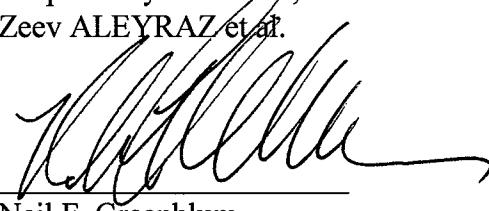
The undersigned authorizes the charging of any necessary fees, including any extensions of time fees required to place the application in condition for allowance by Examiner's Amendment, to Deposit Account No. 19 - 0089 in order to maintain pendency of this application.

CONCLUSION

In view of the foregoing, it is submitted that none of the references of record, either taken alone or in any proper combination thereof, anticipate or render obvious the Applicants' invention, as recited in each of claims 1 – 43. The applied references of record have been discussed and distinguished, while significant claimed features of the present invention have been pointed out.

Accordingly, reconsideration of the outstanding Office Action and allowance of the present application and all the claims therein are respectfully requested and now believed to be appropriate.

Respectfully submitted,
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